

Bill Redding

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Mel Carnahan, Governor • Stephen M. Mahood, Director
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

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CERTIFIED MAIL - P 331 168 551
RETURN RECEIPT REQUESTED

Mr. Thomas S. Sanicola
Environmental Engineer
Modine Manufacturing Company
1500 DeKoven Avenue
Racine, WI 53403

RE: Draft Corrective Action Abatement Order on Consent, Modine Manufacturing Company, 179 Sunset Drive, P.O. Box 636, Camdenton, Camden County, Missouri

Dear Mr. Sanicola:

The purpose of this letter is to inform you that the Missouri Department of Natural Resources (MDNR) has determined that additional corrective action is necessary at Modine Manufacturing Company's (Modine) facility located at 179 Sunset Drive, Camdenton, Missouri, to protect human health and the environment.

The Hazardous Waste Program has identified five Solid Waste Management Units (SWMUs) that require additional investigation to address environmental concerns. They are: SWMU 1 (Hulett Lagoon), SWMU 2 (Mudpits), SWMU 4 (Tank and Drum Storage Area Number 1), SWMU 5 (Tank and Drum Storage Area Number 2), and SWMU 31 (Tank and Drum Storage Area Number 3). Previous site investigations have indicated that these SWMU's contributed to a number of hazardous wastes and hazardous constituents being released into the soil and groundwater. Some contaminated soil has been excavated and disposed off site. However, an unknown quantity of listed and/or characteristic hazardous waste remains in the soil at the facility. In addition, Modine has failed to determine the rate and extent of both on-site and off-site groundwater contamination.



R00126328
RCRA RECORDS CENTER



RECYCLED PAPER

Mr. Thomas S. Sanicola
Page 2

Accordingly, the MDNR is providing this draft Corrective Action Abatement Order on Consent (Order) for Modine's review and comment.

If Modine elects to enter into this Order, Modine would agree to perform the following actions as needed: (1) to perform interim measures at the facility to abate threats to human health and/or the environment, as necessary; (2) to perform a RCRA facility investigation to determine fully the nature and extent of any release of hazardous waste and/or hazardous constituents at or from the facility; (3) to perform a corrective measures study, as determined by the RCRA facility investigation, to identify and evaluate corrective measures alternatives as necessary to prevent, mitigate and/or remediate any releases of hazardous waste or hazardous constituents at or from the facility; and (4) to implement the corrective measure or measures approved by the department at the facility, as deemed necessary by the department following the corrective measures study.

If Modine wishes to negotiate this Order, a letter so stating must be sent to Ms. Cindy Kemper, Director, Hazardous Waste Program, Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102, within 30 days of receipt of this letter. A copy should also be sent to Mr. Robert Hentges, Director, Jefferson City Regional Office, Department of Natural Resources, 1511 Christy Drive, P.O. Box 176, Jefferson City, MO 65102. Should Modine agree to negotiate this Order, Modine and MDNR will have an additional 30 days to negotiate and complete the terms of this Order.

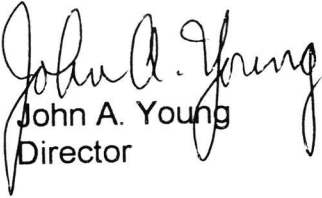
If Modine does not respond to this Order within 30 days of receipt of this letter, if Modine does not agree to negotiate an Order, **OR** if Modine and MDNR are unable to negotiate a mutual Order within 60 days of your receipt of this letter, the MDNR, Hazardous Waste Program may, at its option, refer your case to the Missouri Attorney General's Office as provided for in Section 260.425, RSMo. Request for extensions to the time frames within this letter will be considered, and may be granted, on a case-by-case basis.

Mr. Thomas S. Sanicola
Page 3

I believe this letter is self-explanatory, but should you have questions please contact Ms. Christine Kump or Mr. John Jurgensmeyer of the Hazardous Waste Program at (573) 751-3176.

Sincerely,

DIVISION OF ENVIRONMENTAL QUALITY


John A. Young
Director

JAY:cks

Enclosure

c: Mr. Robert Hentges, MDNR, Jefferson City Regional Office
Mr. Bill Pedicino, U.S. EPA Region VII
Mr. Joseph P. Bindbeutel, Attorney General's Office
Mr. Jerry Lane, MDNR, Public Drinking Water Program
Ms. Shelley A. Woods, Attorney General's Office

MISSOURI DEPARTMENT OF NATURAL RESOURCES
P.O. Box 176
Jefferson City, Missouri 65102

In the Matter of:)
Modine Manufacturing Company)
179 Sunset Drive)
P.O. Box 636)
Camdenton, MO 65020)

Proceeding Under the Missouri)
Hazardous Waste Management Law)
Section 260.410, RSMo)

Order No. _____

CORRECTIVE ACTION ABATEMENT ORDER ON CONSENT

**TO: Modine Manufacturing Company, 179 Sunset Drive, P.O. Box 636,
Camdenton, MO 65020**

TABLE OF CONTENTS

SECTION I.	DEFINITIONS.....	1
SECTION II.	STATEMENT OF PURPOSE.....	2
SECTION III.	PARTIES BOUND.....	3
SECTION IV.	FINDINGS OF FACT.....	3
SECTION V.	CONCLUSIONS OF LAW AND DETERMINATIONS.....	11
SECTION VI.	WORK TO BE PERFORMED.....	12
SECTION VII.	PUBLIC PARTICIPATION IN FINAL REMEDY SELECTION... 	24
SECTION VIII.	REVIEW AND APPROVAL PROCEDURES.....	25
SECTION IX.	ADDITIONAL WORK.....	25
SECTION X.	QUALITY ASSURANCE.....	25

SECTION XI.	SAMPLING.....	26
SECTION XII.	ACCESS.....	26
SECTION XIII.	RECORD PRESERVATION.....	27
SECTION XIV.	PROJECT COORDINATOR.....	27
SECTION XV.	SUBMISSIONS/NOTIFICATION.....	28
SECTION XVI.	RESERVATION OF RIGHTS.....	29
SECTION XVII.	DISPUTE RESOLUTION.....	29
SECTION XVIII.	FORCE MAJEURE.....	30
SECTION XIX.	DELAY IN PERFORMANCE/STIPULATED PENALTIES.....	31
SECTION XX.	FINANCIAL ASSURANCE.....	33
SECTION XXI.	OTHER APPLICABLE LAWS.....	33
SECTION XXII.	SEVERABILITY.....	33
SECTION XXIII.	INDEMNIFICATION OF THE STATE OF MISSOURI.....	34
SECTION XXIV.	EFFECTIVE DATE AND SUBSEQUENT MODIFICATION.....	34
SECTION XXV.	TERMINATION.....	34
SECTION XXVI.	GENERAL SITE MAPS.....	35
SECTION XXVII.	SIGNATURE.....	35

SECTION I. DEFINITIONS

1. For purposes of this Order, terms used herein shall have the same meaning as those in the Hazardous Waste Management Law and 40 CFR Parts 124, 260, 261, 265, 268, and 270, which are incorporated by reference in 10 CSR 25-3.260 and Section 260.360, RSMo, unless this Order specifically provides otherwise. Where terms are not defined in the Hazardous Waste Management Law, the regulations, the Order, or EPA guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference, or the generally accepted scientific or industrial meaning of the term. Additional terms as used herein are defined as follows:

2. Area of Concern (AOC) means an area where an actual or potential release of hazardous waste or hazardous constituents which is not from a solid waste management unit, is occurring and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of Area(s) of Concern may be required pursuant to Sections 260.375 and 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

3. Director means the Director of the of Missouri Department of Natural Resources, Division of Environmental Quality.

4. Department shall mean the Missouri Department of Natural Resources.

5. Facility means:

All contiguous land and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste.

All contiguous property under the control of the owner/operator, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1) and in this Order.

6. Hazardous Constituent means any constituent identified in Appendix VIII of 40 CFR Part 261, as incorporated in 10 CSR 25-4.261.

7. Hazardous Waste means any waste, or combination of wastes as defined by or listed in 10 CSR 25-4 or 10 CSR 25-11, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or which may pose a threat to the health of humans or other living organisms.

8. Modine shall mean Modine Manufacturing Company, located at 179 Sunset Drive, Camdenton, Camden County, Missouri.

9. RCRA shall mean the Solid Waste Disposal Act, as amended by, 42 U.S.C. 6901, et seq. (also known as the Resource Conservation and Recovery Act).

10. Release means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

11. Solid Waste Management Unit (SWMU) means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

12. Stabilization means actions to control or abate threats to human health and/or the environment from releases at a Hazardous Waste Management Facility and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

SECTION II. STATEMENT OF PURPOSE

13. In entering into this Corrective Action Abatement Order on Consent, the mutual objectives of the Department and Modine, are: (1) to Perform Interim Measures (IM), at the Facility to abate threats to human health and/or the environment, as necessary; (2) to perform a RCRA Facility Investigation (RFI) to determine fully the nature and extent of any release of hazardous waste and/or hazardous constituents at or from the Facility; (3) to perform a Corrective Measures Study (CMS), as determined by the RFI, to identify and evaluate corrective measures alternatives as necessary to prevent, mitigate and/or remediate any releases of hazardous waste or hazardous constituents at or from the Facility; and (4) to implement the corrective measure or measures approved by the Department at the Facility, as deemed necessary by the department following the CMS.

SECTION III. PARTIES BOUND

14. This Order shall apply to and be binding upon the Department, Modine and its officers, directors, employees, agents, successors and assigns, heirs, trustees, and receivers acting under or on behalf of Modine.

15. Modine shall be responsible for and liable for any failure to carry out any activities required of Modine pursuant to this Order, regardless of Modine's use of employees, agents, contractors, or consultants to perform such tasks.

16. No change in ownership or corporate or partnership status relating to the Facility shall in any way alter Modine's responsibility under this Order. Modine shall give written notice of this Order to any successor in interest prior to transfer of ownership or operation of the Facility (or any portion thereof) and shall notify the Department in writing thirty (30) days prior to such transfer.

17. Modine shall provide a copy of this Order to all contractors, laboratories, and consultants retained to conduct or monitor any portion of the work performed pursuant to this Order within fourteen (14) days of the retention of such contractor and shall condition all such contracts on compliance with the terms of this Order.

18. Modine agrees to undertake all actions required by this Order.

SECTION IV. FINDINGS OF FACT

19. In addition to the Findings of Fact contained within this Order, an administrative record is maintained within the Department's files for this Facility and in support of this Order.

20. Modine Manufacturing Company is a Wisconsin corporation that operates and conducts business in the state of Missouri. The Facility was originally owned and operated by Dawson Metal Products from 1967 to 1974. Sundstrand Tubular Products purchased the Facility in 1974, and continued operating it until 1990. In October 1990 the Facility was purchased by Modine Heat Transfer, Inc., a wholly owned subsidiary of Modine Manufacturing Company, Racine, Wisconsin. Modine Heat Transfer, Inc. merged with Modine Manufacturing Company on April 1, 1997, changing its name to Modine Manufacturing Company. Modine is the current owner/operator of the Facility. The site has always been used to manufacture air-conditioning coils and feeder parts from aluminum and copper tubing.

21. Modine is located on Sunset Drive in Camdenton, Missouri and occupies approximately 100 acres. The legal description for the site is: NE 1/4, NE 1/4, Sec. 26, T. 28 N., R. 17 W., Green Bay Terrace Quadrangle, Camden County, Missouri (Figure 1).

22. The site is bordered by residences to the northwest, north, and east, and is bordered by a wooded ravine to the southwest. The nearest residences are 20 feet east of the site. Additional residential dwellings exist beyond the wooded ravine area to the southwest, within 1 mile of the Facility. The nearest municipal well is located 1/4 mile southeast of the site. Ha Ha Tonka Spring is located approximately 2.5 miles south of the Facility.

23. Sundstrand Tubular Products, Inc. submitted a completed Resource Conservation and Recovery Act Hazardous Waste Part A Permit Application, dated November 10, 1980, to the Environmental Protection Agency (EPA). The permit application identified several hazardous wastes generated by the Facility. These hazardous wastes are identified by the following waste codes: F001, F006, F007, F009, and D001.

24. EPA sent a letter dated December 19, 1980, to Sundstrand Tubular Products, Inc. acknowledging receipt of Sundstrand's Part A Permit Application and accepting the application as its initial qualification for interim status as a Treatment/Storage/Disposal (TSD) Facility.

25. Prior to the purchase of the site by Modine, Sundstrand Tubular Products Inc. submitted a Closure Plan, dated September 4, 1990, to the Department, to close its interim status storage units and to operate in the future as a generator, only.

26. A Departmental letter dated September 14, 1990, addresses Sundstrand's September 4, 1990, letter. The Department's letter states that "Sundstrand could proceed at their own risk with the closure activities identified in their closure plan prior to closure plan approval by MDNR. Any modifications to this closure plan or any additional requirements will have to be implemented subsequent to closure plan approval by MDNR."

27. Modine notified the Department and EPA of the ownership change, described above in Paragraph 20, in a RCRA Part A Permit application and letter dated December 3, 1990.

28. Jacobs Engineering Group, Inc. (Jacobs), a contractor for EPA conducted a RCRA Facility Assessment (RFA) for EPA at the Facility and submitted to EPA the final Environmental Priorities Initiative/Preliminary Assessment (EPI/PA) report dated October 28, 1992. The EPI/PA identified 23 Solid Waste Management Units (SWMUs) and 7 Areas of Concern (AOCs) as actual or potential sources of releases of hazardous waste or hazardous constituents to the environment. The EPI/PA Report findings indicated that the AOCs Jacobs identified did not appear to require any additional work. However, according to the EPI/PA, 6 SWMU's required additional action to address environmental concerns.

29. On November 12, 1992, the Department approved the September 4, 1990 Closure Plan submitted by Sundstrand with modifications. The modifications required that additional sampling be performed at their interim status storage units.

30. Modine submitted a Closure Report dated September 9, 1993, to the Department, outlining results from a July 1993, sampling conducted pursuant to the approved Closure Plan.

31. The Department sent a letter dated June 16, 1994, notifying Modine that the closure standards outlined in the approved Closure Plan were not met by Modine, and a risk assessment and additional sampling were also requested.

32. Modine submitted a report entitled "Environmental Risk Assessment of former Drum Storage Areas" dated August 16, 1994. The report was prepared for Modine by Law Engineering and Environmental Services.

33. On December 7, 1994, MDNR conducted a groundwater sampling investigation of two monitoring wells installed by MDNR in July 1992. The analytical results revealed that monitoring well MW-1 contained Trichloroethene (TCE) at 6.9 parts per billion (ppb) and monitoring well MW-2 contained TCE at 5.1 ppb. These results were above the Drinking Water Maximum Contaminant Level (MCL) of 5 ppb for TCE.

34. Modine submitted a "Work Plan Modification" for an investigation to achieve final closure of the interim status TSD Facility. The Work Plan Modification was dated June 1, 1995. The Work Plan Modification was submitted to address the following: the lead contaminated soil at boring B-11, which is located at the southwest corner of the former Tank and Drum Storage Area 2; to install 1 additional groundwater monitoring well; and to sample the soil to identify the extent of contamination.

35. The Department approved Modine's Closure Plan Modification Request in a letter dated September 5, 1995.

36. Modine submitted a report of its findings entitled "Findings of an Investigation to Achieve Final Closure of the Interim TSD Facility" dated February 12, 1996. In summary, the results of the work revealed that the lead contaminated soil at boring B-11 was removed, with residual levels remaining in place below draft Missouri Department of Health (MDOH) Any Use Soil Levels (ASLs); two (2) additional groundwater monitoring wells known as MW-3 and MW-4 were installed and the samples taken during installation revealed that hazardous constituents were present; soil borings in and around the employee parking lot revealed that the following levels of TCE at 3.5 ppb to 204,000 ppb, Tetrachloroethane at 2180 ppb, 1,1-Dichloroethene at 10.9 ppb, and Methylene Chloride at 13 ppb to 29 ppb were present in the soil.

37. Modine voluntarily submitted a "Work Plan for an Investigation for the Fracture System" dated April 26, 1996. The purpose of this investigation was to determine the presence and nature of potential chemical migration pathways associated with fractures or joints in the bedrock underlying the Facility.

38. A telephone log dated May 6, 1996 indicates that the Department telephoned Modine in reference to the April 26, 1996 "Work Plan of an Investigation of the Fracture System". The Department informed Modine that the Department had no comments on the Work Plan and that Modine should proceed as planned.

39. Modine submitted a final report entitled "Fracture System Investigation" dated July 17, 1996. The report concludes that the preferred fracture direction trends directly toward the former Hulett Lagoon, owned by the City of Camdenton, located northeast of the Facility. Therefore, Modine contends, the possibility exists that TCE is migrating onto the Modine Facility due to releases from the former Hulett Lagoon through the vertical fractures located within the subsurface.

40. On November 4, 1996, Modine submitted a report summarizing a voluntary subsurface investigation conducted at the location of the former Hulett Lagoon on property owned by the City of Camdenton. Sampling results and analyses show levels of TCE as high as 9,170 ppb and chloroform as high as 200 ppb in soil.

41. The Department sent a letter to Modine dated November 25, 1996, which states that "Modine shall submit to the HWP either a written commitment to perform further "voluntary" investigation (including continued groundwater monitoring) or a post closure plan which includes specifications requiring groundwater monitoring and a cost estimate for post-closure care."

42. A Departmental letter to Modine dated March 20, 1997, outlined the general nature and scope of corrective action requirements necessary at the Facility. Following further review of the EPI/PA report and Facility files the Department has determined that five (5) SWMUs require additional investigation to address environmental concerns. They are: SWMU 1 (Hulett Lagoon), SWMU 2 (Mudpits), SWMU 4 (Tank and Drum Storage Area Number 1), SWMU 5 (Tank and Drum Storage Area Number 2), and SWMU 31 (Tank and Drum Storage Area Number 3):

SWMU 1- Hulett Lagoon

43. The former Hulett Lagoon is currently owned by the City of Camdenton and is located off-site, approximately one-fourth mile to the northeast of the Modine Facility (Figure 1). The Hulett Lagoon received waste, including untreated waste water containing volatile organic compounds (VOCs), cyanide and various metals, and stormwater, from the Facility by dedicated pipe from 1967 until 1986. In addition to discharges from the Facility, the lagoon received some local domestic sewage; however, the only industrial source documented as contributing to the lagoon was the Facility. Hazardous Wastes potentially received by the Hulett Lagoon from the Facility include those hazardous wastes identified by the following waste codes: F001, F006, F007, F009, D001, and D098.

44. Closure of the Hulett Lagoon was completed in 1988 by the City of Camdenton pursuant to an Industrial Development Grant overseen by the MDNR's Water Pollution Control Program (WPCP). The lagoon closure was not designed to meet the substantive requirements of the Hazardous Waste Management Law relative to corrective action. Sampling and analysis efforts were limited to metals and other "generic" parameters (e.g., total solids). At the time of closure no sampling and analysis for VOCs or cyanide were performed, and the horizontal and vertical extent and rate of migration of contamination in environmental media associated with the lagoon were not determined during the 1988 lagoon closure process.

45. There is TCE contamination in the soil at the former Hulett Lagoon as there is on-site at other SWMUs; however, the evidence to date does not show that the former lagoon is the source, or even a source, of the groundwater contamination at the Facility. A release at the Hulett Lagoon is evident, and further investigation is warranted to determine the nature and scope of this release, including any relationship to on-site groundwater contamination.

SWMU 2 - Mudpits

46. Four mudpits (sumps) were utilized by the Facility from 1967 to 1986. The mudpits were connected by a 6-inch steel line that delivered storm water, boiler water and cleaning line waste to the Hulett Lagoon. The mudpits were located approximately 10 feet west of the manufacturing building (Figure 2). Each mudpit consisted of a 4 foot by 4 foot by 4 foot deep cement sump. Each sump received the previous sumps' wastes until discharged into the sewer. The southern most mudpit (mudpit #4) was an open pit that collected boiler water and storm water. Mudpit #3 collected aluminum cleaning line waste and storm water from mudpit #4. Mudpits #2 and #1 collected copper cleaning line waste in addition to aluminum cleaning line waste and storm water from the first two mudpits. Mudpit #2 no longer exists and was located beneath what is now the pre-treatment/drum storage area. How this mudpit and the dedicated pipeline to the Hulett Lagoon were removed is not known. Hulett Lagoon potentially received Hazardous Waste from the Modine Facility's 4 mudpits and associated piping, identified by the following Hazardous Waste codes: F001, F006, F007, F009, D001, and D098.

SWMU 4 - Tank and Drum Storage Area Number 1

47. Tank and Drum Storage Area Number 1 was used by the Facility from 1972 to 1977. The area is located approximately 80 feet from the mechanical room to the west of the manufacturing building (Figure 2). It was constructed of a gravel and clay mixture over a clay fill and was approximately 25 feet wide by 30 feet long. Up to 45 55-gallon drums of liquid and sludge were stored at any one time at this drum storage area.

48. Hazardous Wastes managed in this area included TCE still bottoms (F001), waste paint filters and liquid (D011), and non-hazardous waste oil. Plastic drum covers were placed on the drums to prevent contamination or precipitation from entering the drums.

49. The area was graded and paved as an employee parking lot in 1983. Removal of this storage area was not approved by the Department. Releases of VOCs were identified in the vicinity of SWMU 4 by LAW

Environmental, Inc., (LAW) as part of an Environmental Site Assessment (ESA), in November 1991. Modine's report entitled "Findings of an Investigation to Achieve Final closure of the Interim TSD Facility" dated February 12, 1996 revealed soil concentrations of TCE as high as 204,000 ppb in the vicinity of SWMU 4. The source(s), horizontal and vertical extent and any relationship of these releases to the groundwater contamination beneath the Facility are currently unknown. Given the hazardous waste storage activities conducted at this unit and the analytical results for soil samples obtained in the vicinity, further investigation is warranted.

SWMU 5 - Tank and Drum Storage Area Number 2

50. Tank and Drum Storage Area Number 2 is located 10 feet from the west wall of the manufacturing building (Figure 2). This storage area was used from 1983 to 1985. The area was constructed of a 25 feet by 30 feet steel reinforced concrete slab and an 8-inch containment wall. In addition to holding up to 20 55-gallon drums, the area also contained two storage tanks. A 1,000 gallon steel tank held waste oil (D098) and a 5,300 gallon steel tank contained TCE still bottoms (F001). Plastic drum covers were placed on the drums to prevent contamination and precipitation from entering the drums. This area was removed in 1985 to make room for a waste water pre-treatment system. The contaminants of concern at SWMU 5 are TCE and other VOCs.

SWMU 31 - Tank and Drum Storage Area Number 3

51. Tank and Drum Storage Area Number 3 was used by the Facility from 1979 to 1983 and was located at the southern end of the manufacturing building (Figure 2). It was constructed of a base rock and clay mixture and was 25 feet wide by 50 feet long. This area was removed in 1983 for expansion of the manufacturing building. Removal activities for this storage area are not known and were not reviewed or approved by MDNR. Waste managed at Drum Storage Area #3 consisted of waste TCE(F001) and waste oil (D098) from degreasing operations, stored in 55-gallon drums.

52. LAW Environmental, Inc., extracted 5 samples from this area as part of the November, 1991 ESA. The samples showed that 1,1-Dichloroethene; 1,2-Dichloroethane; Chloroform; 1,1,1-Trichloroethane; TCE; Vinyl Chloride; Trichlorofluoromethane; Methylene Chloride; trans-1,2-Dichloroethene; and 1,1,2-Trichloroethane were in the soil at this SWMU.

53. At the time of the ESA, perched groundwater (or more likely water in the coarse-grained subgrade material for the building foundation) flowed from two of the borings installed through the building foundation. This water was sampled and shown to contain 1,1 Dichloroethane; Total 1,2-Dichloroethene; 1,1,1-Trichloroethane; TCE; Methylene Chloride; and 1,1,1-Trichloroethane. The source(s), horizontal and vertical extent and any relationship of these releases to the deeper groundwater contamination beneath the Facility are currently unknown.

54. A Modine letter report entitled "Subsurface Investigation Monorail Vapor Degreaser and Still M567 (SWMU 26) and former Drum Storage Area Number 3 (SWMU 31)" dated May 21, 1997 provided MDNR with sampling and analysis results from subsurface sampling of the Monorail Vapor Degreaser and Still M567 (SWMU 26) and Former Drum Storage Area Number 3 (SWMU 31). Sample results from that letter report indicate that hazardous waste and/or hazardous constituents remain in the soil and water found in the subgrade beneath and adjacent to the building. Sample analysis revealed the following levels of hazardous constituents in the soil: Methylene Chloride (110 ppb); Acetone (120 ppb); 1,1-Dichloroethene (770 ppb); 1,1-Dichloroethane (79 ppb); Total 1,2-Dichloroethene (96 ppb); 1,1,1-Trichloroethane (6,000 ppb); TCE (4,000 ppb); and Tetrachlorethane (14 ppb).

55. The letter report also included an analysis of water found in the building subgrade which indicated the presence of hazardous constituents beneath the manufacturing building: Methylene Chloride (3,300 ppb); Acetone (2,200 ppb); 1,1-Dichloroethene (22,000 ppb); 1,1-Dichloroethane (17,000 ppb); Total 1,2-Dichloroethene (160 ppb); 1,1,1-Trichloroethane (21,000 ppb); TCE (1,300 ppb); and Butanone (2,000 ppb).

56. Modine submitted a report entitled "Subsurface Investigation and Excavation of Out of Service Mudpits", dated December 3, 1997 resulting from additional voluntary investigation/remediation efforts. The analysis of Geoprobe soil samples taken at the mudpits shows increasing photoionization detector (PID) screening readings and laboratory analysis of these samples indicated increasing TCE concentrations (30 ppb to 900 ppb) with increasing depth. Although, TCE concentrations were below the Missouri Department of Health's (MDOH) proposed ASLs for residential settings which are based solely on soil ingestion, some of the TCE soil concentrations exceed Superfund's Soil Screening Levels (SSLs) for transfers to groundwater. Lead concentrations significantly above MDOH's proposed ASL OF 240,000 ppb for lead were detected in soil samples obtained from geoprobes P-1 (565,000 ppb), P-4 (1,240,000 ppb), and P-9 (314,000 ppb). The Geoprobes were advanced to a maximum depth of 10 feet.

57. Soil surrounding mudpits #1, #3, and #4 and debris from the mudpits (i.e., cement lining, PVC piping, and scrap metal) were excavated to address lead contaminated soil and other materials. The excavated soil was stockpiled on-site and was analyzed via the Toxicity Characteristic Leaching Procedure (TCLP) (EPA SW-846 Method 1311) for disposal characterization purposes. Approximately, 13 tons of the soil failed TCLP and was disposed off-site as hazardous waste. 184 tons were disposed off-site as special waste. Due to the close proximity of the excavation to a sprinkler main and the outer wall of the manufacturing building, an unknown quantity of some characteristic hazardous waste (i.e., TCE or lead) remains in the soil at the Facility.

SECTION V - CONCLUSIONS OF LAW AND DETERMINATIONS

58. Based on the foregoing findings of fact and after consideration of the administrative record, the Director makes the following conclusions of law and determinations:

- A. Pursuant to the authority vested in the Director of the Missouri Department of Natural Resources this Corrective Action Abatement Order on Consent is issued to Modine Manufacturing Company in accordance with the Missouri Hazardous Waste Management Law including but not limited to Sections 260.350, 260.375(15), 260.394, 260.395, 260.410, 260.420, 260.425, and 260.530, RSMo.
- B. Respondent is a "person" within the meaning of Section 260.360, RSMo.
- C. Respondent is the owner or operator of a facility that has operated or is operating subject to the interim status requirements of the Missouri Hazardous Waste Management Law, Section 260.395.15, RSMo and 10 CSR 25-7.265.
- D. Certain wastes and constituents found at the Facility are hazardous wastes or hazardous constituents as defined by Section 260.360, RSMo and the regulations at 40 CFR Parts 260 and 261, incorporated by reference in 10 CSR 25-3.260 and 4.261.
- E. There is or has been a release of hazardous wastes or hazardous constituents into the environment from the Facility.
- F. The actions required by this Order are necessary to protect human health and the environment.

SECTION VI - WORK TO BE PERFORMED

59. Pursuant to Sections 260.350, 260.375(15), 260.394, 260.395, 260.410, 260.420, 260.425, and 260.530, RSMo. and/or 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1), Modine agrees, and is hereby ordered, to perform the following acts in the manner and by the dates specified herein.

Notification Requirements for, and Assessment of, Newly-Identified SWMUs and AOCs

60. Modine shall notify the Department and EPA in writing of any SWMU(s) or AOC(s) identified subsequent to the issuance of this Order no later than 15 days after discovery.

61. The Department may require a SWMU/AOC Assessment Work Plan for conducting an investigation of any newly-identified SWMU(s) or AOC(s). Within 30 days after receipt of the Department's request for a SWMU/AOC Assessment Work Plan, Modine shall submit a SWMU/AOC Assessment Work Plan which shall include a discussion of past waste management practices at the unit, as well as a sampling and analysis program for groundwater, land surface and subsurface strata, surface water, and/or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) has occurred, or is occurring. The sampling and analysis program shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents from the newly-identified SWMU(s)/AOC(s) to the environment. The SWMU/AOC Assessment Work Plan shall specify any data to be collected to provide for a complete SWMU/AOC Assessment Report, as specified below.

62. The SWMU/AOC Assessment Work Plan will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). Modine shall initiate implementation of the plan within 60 days of receipt of Departmental approval and shall complete implementation thereof in accordance with the schedule contained in the approved plan.

63. Modine shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained from implementation of the approved

SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU/AOC:

- A. The location of the newly-identified SWMU/AOC in relation to any other SWMUs/AOCs;
- B. The type and function of the unit;
- C. The general dimensions, capacities, and structural description of the unit;
- D. The period during which the unit was operated;
- E. The physical and chemical properties of all wastes that have been or are being managed at the SWMU/AOC, to the extent available;
- F. The results of any sampling and analysis conducted;
- G. Past and present operating practices;
- H. Previous uses of the area occupied by the SWMU/AOC;
- I. Amounts of waste handled; and
- J. Drainage areas and/or drainage patterns near the SWMU(s)/AOC(s).

64. The SWMU/AOC Assessment Report will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). Based on the findings of this report, the Department will determine the need for further investigations, including stabilization, a RCRA Facility Investigation (RFI), and/or a Corrective Measures Study (CMS), at specific unit(s) identified in the SWMU/AOC Assessment Report.

65. If the Department determines that additional investigations are needed, the Department may require Modine to prepare and submit for approval a Work Plan for such investigations. This Work Plan for additional investigations will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). Modine shall initiate implementation of the plan within 60 days of receipt of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.

Notification Requirements for, and Assessment of, Newly-Identified Releases from Previously-Identified SWMUs and AOCs

66. Modine shall notify the Department and EPA, in writing, of any release(s) of hazardous waste, including hazardous constituents, from previously-identified SWMUs and AOCs discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Order, no later than 15 days after discovery.

67. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the newly-identified release(s). Within 30 days after receipt of notice that the Department requires a Newly-Identified Release Work Plan, Modine shall submit a Newly-Identified Release Work Plan which shall include a discussion of the waste/chemical management practices related to the release; a sampling and analysis program for groundwater, land surface and subsurface strata, surface water or air, as necessary to determine whether the release poses a threat to human health or the environment; and a proposed schedule for implementation and completion of the Newly-Identified Release Work Plan. The sampling and analysis program shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents to the environment. The Newly-Identified Release Work Plan shall specify any data to be collected to provide for a complete Newly-Identified Release Report, as specified below.

68. The Newly-Identified Release Work Plan will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). Modine shall initiate implementation of the plan within 60 days of receipt of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.

69. Modine shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and discuss the information obtained during implementation of the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:

- A. The location of the newly-identified release in relation to any other SWMU(s)/AOC(s);
- B. The general dimensions of the release;

- C. The period during which the release is suspected to have occurred;
- D. The physical and chemical properties of all wastes that comprise the release;
- E. The results of any sampling and analysis conducted;
- F. Past and present operating practices near and at the location of the release;
- G. Previous uses of the area(s) occupied near and at the location of the release;
- H. Amounts of waste handled near and at the location of the release; and
- I. Drainage areas and/or drainage patterns near and at the location of the release.

70. The Newly-Identified Release Report will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). Based on the findings of the report and any other available information, the Department will determine the need for further investigation, including stabilization, an RFI, and/or a CMS.

Stabilization

71. If Modine becomes aware of a situation that may require stabilization measures to protect human health and the environment, Modine shall notify the Department and EPA within 24 hours of the time Modine becomes aware of the situation.

72. If during the course of any activities initiated under this Order, Modine or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require stabilization measures to slow or stop the further spread of contamination until final corrective action measures can be implemented. The Department will determine the specific action(s) that shall be taken to implement stabilization and the schedule for implementing the stabilization requirements and will inform Modine of decisions regarding the action(s) in writing.

73. If at any time, Modine determines or should have known that the stabilization program is not effectively limiting or stopping the further spread of contamination, Modine shall notify the Department and EPA in writing no later than ten days after such a determination is made. The Department may require that the stabilization program be revised to make it effective in limiting or stopping the spread of contamination, or that final corrective action measures are required to remediate the contaminated media.

RCRA Facility Investigation (RFI) Work Plan

74. Within 60 days of the effective date of this Consent Order, Modine shall submit to the Department and EPA a Work Plan. The RFI Work Plan is subject to approval by the Department and shall be developed in a manner that addresses all environmental concerns outlined herein and that considers all investigations and data collected to date by Modine. The RFI Work Plan shall contain provisions which are designed to meet the following objectives:

- A. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from existing or newly identified SWMUs/AOCs or newly identified release(s) at the Facility and the actual or potential receptors of such releases; and
- B. Collection of any other pertinent data which may be utilized to substantiate future corrective action decisions.

75. The content of the RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the most recent version of the EPA guidance document entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the Facility, a description of current conditions, the schedule for implementing and completing such investigations, and for submission of reports (including the final RFI Report), the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

76. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include the RFI

objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures and data review, validation and reporting procedures.

77. Modine shall prepare and maintain a health and safety plan during the project that assures the RFI activities are conducted in a manner that is not harmful to human health or the environment.

78. Due to the complexity of defining the extent of contamination, Modine may be required to use a phased approach, which will require the submittal of supplemental RFI Work Plans.

79. The RFI Work Plan(s) will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). Modine shall initiate implementation of the plan(s) within 60 days of receipt of Departmental approval and shall complete implementation in accordance with the schedules contained in the plan(s).

RCRA Facility Investigation (RFI) Report

80. Modine shall submit a RFI Report to the Department and EPA in accordance with the schedule contained in the approved RFI Work Plan. The RFI Report shall present all information gathered under the approved RFI Work Plan along with a brief Facility description and map showing the property boundary and all SWMUs/AOCs. The information presented in the RFI Report shall be presented in a form that is consistent with Section 5 of the most recent version of the EPA publication entitled, RCRA Facility Investigation Guidance: EPA 530/SW-89-031.

81. The RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional stabilization and/or a CMS may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs/AOCs and associated releases, including, but not limited to, the following:

- A. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs/AOCs at the Facility;

- B. Characterization of the environmental setting of the Facility, including:
 - 1. Hydrogeological conditions;
 - 2. Climatological conditions;
 - 3. Soil and bedrock characteristics;
 - 4. Surface water and sediment quality; and
 - 5. Air quality and meteorological conditions;
- C. Characterization of SWMUs/AOCs from which releases have been or may be occurring, including unit and waste characteristics;
- D. Descriptions of human and environmental receptors which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs/AOCs;
- E. Information that will assist the Department in assessing risks to human health and the environment from releases from SWMUs/AOCs;
- F. Extrapolations of future contaminant movement;
- G. Laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the Facility;
- H. Statistical analyses to aid in the interpretation of data; and
- I. Results of any stabilization measures previously implemented.

82. The RFI Report will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). After review of the RFI Report, if the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report by the Department, the Department shall advise Modine as to the next step in the corrective action process which may include submittal of a CMS Work Plan.

Corrective Measures Study (CMS) Work Plan

83. If the Department determines that a release(s) of hazardous waste and/or hazardous constituents from newly and/or previously-identified SWMUs/AOCs pursuant to paragraphs 74 through 82 of this Order, or long-term groundwater monitoring results, may present a threat to human health or the environment, the Department may require Modine to prepare and submit a CMS Work Plan and will notify Modine in writing of this decision. This notice will identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by Modine during the CMS.

84. The Department may require Modine to identify and evaluate, as part of the CMS, one or more specific potential remedies for removal, containment, and treatment of hazardous waste, including hazardous constituents in contaminated media based on the objectives established for the corrective action. These remedies may include a specific technology or combination of technologies that, in the Department's judgment, may be capable of achieving standards for protection of human health and the environment.

85. Modine shall submit a CMS Work Plan to the Department and EPA within 45 days of notification of the requirement to conduct a CMS. The CMS Work Plan shall be consistent with guidance contained in the most recent version of the EPA document entitled: RCRA Corrective Action Plan; OSWER Directive 9902.3-2A. At a minimum, the CMS Work Plan shall provide the following information:

- A. A description of the general approach to investigating and evaluating potential remedies;
- B. A definition of the specific objectives of the study;
- C. A description of the remedies which will be studied;
- D. A description of those potential remedies which were preliminarily considered, but were dropped from further consideration, including the rationale for elimination;
- E. The specific plans for evaluating remedies to ensure compliance with remedy standards;
- F. The schedules for conducting the study and submitting a CMS Report;

- G. The proposed format for the presentation of information; and
- H. Laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the Facility.

86. The Department will review the CMS Work Plan in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). Modine shall initiate implementation of the plan within 60 days of receipt of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.

Corrective Measures Study (CMS) Report

87. If the Department determines that a CMS Work Plan is necessary to address a release(s) of hazardous waste and/or hazardous constituents from newly and/or previously-identified SWMUs/AOCs pursuant to paragraphs 74 through 82 of this Order, or to address long-term monitoring results, Modine shall submit a CMS Report to the Department and EPA according to the schedule contained in the approved CMS Work Plan. The CMS Report shall present all information gathered under the approved CMS Work Plan and shall be consistent with guidance contained in the most recent version of the EPA document entitled, RCRA Corrective Action Plan: OSWER Directive 9902.3-2A. The CMS Report shall summarize the results of the investigations for each remedy studied and of any bench-scale or pilot tests conducted. The CMS Report shall include, but not be limited to, the following information:

- A. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedy studied, including safety impacts, cross media impacts, and control of exposure to any residual contamination;
- B. Assessment of the effectiveness of each remedy in achieving adequate control of sources and cleanup of the hazardous waste or hazardous constituents released from the SWMU(s)/AOC(s);
- C. Assessment of the time required to begin and complete each remedy;
- D. Estimation of the costs of implementing each remedy;
- E. Recommendation of remedy and rationale for selection; and

- F. Assessment of institutional requirements, such as state or local Permit requirements, or other environmental or public health requirements which may substantially affect implementation of the remedy.

88. The CMS Final Report shall contain adequate information to support the Department in the remedy approval decision-making process.

89. The CMS Final Report will be reviewed in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures). The Department will approve a final remedy as specified in paragraph 91 of this Order.

90. In accordance with Section VII. (Public Participation in Final Remedy Selection) of this Order the Department will provide an opportunity of submission of written and/or oral comments and an opportunity for a public hearing regarding the proposed final remedy for the Facility.

Final Remedy Selection

91. If the Department determines that corrective measures are necessary to address a release(s) of hazardous waste and/or hazardous constituents from newly and/or previously-identified SWMUs/AOCs pursuant to paragraphs 74 through 82 of this Order, the Department will approve a final remedy that will: 1) be protective of human health and the environment; 2) control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures, or migration that might pose a threat to human health and the environment; and 3) meet all applicable federal, state, and local laws and regulations.

Corrective Measures Implementation (CMI) Work Plan

92. Within 60 days of approval of the Final Remedy, Modine shall submit a CMI Work Plan to the Department and EPA. The CMI Work Plan shall outline the objectives of the corrective measures and shall contain a detailed description of the design, construction, operation, monitoring, quality assurance, and maintenance requirements; an amended cost estimate to more accurately define detailed costs for design, construction, and monitoring; a detailed schedule for design, construction, and monitoring; management procedures for hazardous wastes and/or hazardous constituents recovered as a result of implementing the corrective measures. The CMI Work Plan shall provide detailed plans for remedy implementation consistent with all applicable components of the CMI as specified in the document entitled, RCRA Corrective Action Plan (Final), May 1994, and consistent with the objectives specified in the approved CMS Report.

93. The CMI Work Plan will be reviewed in accordance with the procedures set forth in Section VII. (Review and Approval Procedures). Modine shall initiate implementation of the plan within 30 days of receipt of Departmental approval and shall complete implementation in accordance with the schedules contained in the plan.

Corrective Measures Implementation (CMI) Report and Certification of Completion of Corrective Measures

94. Within 60 days of completion of all corrective measures implementation activities, Modine shall submit a CMI Report to the Department and EPA. The CMI Report shall contain a summary of corrective measures activities conducted at the Facility and a detailed description of any long-term operation and maintenance and/or monitoring program associated with the on-going corrective measures. For SWMUs requiring extended time periods for implementation of the remedy, Modine shall summarize the progress of the remedy implementation and provide data obtained during remedy implementation in the Quarterly Progress Reports required in paragraphs 100 through 103 of this Order. Any short-term completion of corrective action activities at individual SWMUs shall be identified in the Quarterly Progress Reports.

95. The CMI Report will be reviewed and approved in accordance with the procedures set forth in Section VIII. (Review and Approval Procedures).

96. Within 60 days of Departmental approval of the CMI Report documenting completion of all corrective action, Modine shall submit to the Department and EPA, by registered mail, a written certification stating that the remedy has been completed in accordance with the approved CMS Report and CMI Work Plan. The certification shall be signed by Modine and an independent professional engineer registered in the state of Missouri.

Institutional Controls

97. Within 120 days of Departmental approval of the CMI Report, Modine shall submit to the County Recorder of Deeds and to the Department, a survey plat for each SWMU for which levels of contamination in the associated soils, groundwater, and/or other environmental media exceed background concentrations and/or other applicable regulatory thresholds at that time. The survey plat shall indicate the location and dimensions of each SWMU with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a professional land surveyor.

98. Within 120 days of Departmental approval of the CMI Report, Modine shall submit to the County Recorder of Deeds and to the Department, a record of the type, location, and concentrations of hazardous wastes and/or hazardous constituents remaining in the soil, groundwater, and/or other environmental media.

99. Within 120 days of the approval of the CMI Report, Modine shall:

- A. Record, in accordance with state law, a deed notation and/or restrictive covenant for the Facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that:
 - 1. The land has been used to manage hazardous waste and/or hazardous constituents; and
 - 2. The survey plat and record of type, location, and concentration of hazardous wastes and/or hazardous constituents remaining in the soil, groundwater, and or other environmental media have been filed with County Recorder of Deeds and with the Department; and
- B. Submit a certification, to the Department, signed by Modine, that the notation and/or restriction specified in paragraph 99.A. of this section has been recorded, including a copy of the document on which the recording information has been placed.

Quarterly Progress Reports

100. Modine shall submit to the Department and EPA signed Quarterly Progress Reports summarizing all corrective action activities undertaken during each calendar quarter. Each Quarterly Progress Report shall be due within 60 days following the last day of each reporting period (i.e., March 1, June 1, September 1, and December 1).

101. The first Quarterly Progress Report shall be due within 60 days of the end of the calendar quarter in which this Order becomes effective. The Quarterly Progress Reports shall continue to be submitted until such time as Modine's corrective action activities are complete. The Quarterly Progress Reports shall include the following information for the time period being reported:

- A. A description of the work completed;
- B. Summaries of all findings, including summaries of laboratory data;

- C. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
- D. Projected work for the next reporting period; and
- E. Any instances of noncompliance with the corrective action requirements of this Order not required to be reported elsewhere in this Order.

102. Detailed technical information shall be submitted as part of the Interim Measures, RFI, CMS, and/or other reports required by this Order. This detailed information need not be reproduced as part of the Modine's Quarterly Progress Reports.

103. Copies of other reports (e.g., inspection reports), information, or data shall be made available to the Department and EPA upon request.

Supplemental Data

104. All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Order shall be maintained by Modine during the term of this Order.

SECTION VII - PUBLIC PARTICIPATION IN FINAL REMEDY SELECTION

105. Following Departmental approval of the CMS Final Report the Department will prepare a Statement of Basis summarizing the corrective measures alternatives evaluated as part of the CMS. The Statement of Basis will provide an explanation of the remedy selection criteria as contained in the Final RCRA Corrective Action Plan (OSWER Directive 9902.3-2A), May 1994, relative to Modine's proposed final remedy.

106. The Department will provide the public with an opportunity of at least 30 days duration to review and comment on the Statement of Basis, the proposed final remedy, and the justification for selection of the final remedy. The administrative record supporting the proposed final remedy will be made available to the public during the comment period.

107. Following the public review and comment period, the Department will respond to all public comments prior to approving a final remedy. If substantive comments are received during the public comment period, the proposed final remedy may be modified and/or the Department may require Modine to consider other alternatives. If no comments are received during the public comment period, the proposed final remedy will become the final remedy and Modine will be so notified in accordance with Section VIII (Review and Approval Procedures).

SECTION VIII - REVIEW AND APPROVAL PROCEDURES

108. Following submission of any plan or report pertaining to this Order, (with the exception of Quarterly Progress Reports) the Department will review and either approve or disapprove the plan or report in writing.

109. If the Department does not approve the plan or report, the Department will notify Modine in writing of the plan's or report's deficiencies and specify a due date for submittal of a revised plan or report.

110. If the Department does not approve the revised plan or report, the Department may modify the plan or report and notify Modine of the modifications. The plan or report as modified by the Department shall be the approved plan or report.

111. If Modine disagrees with any Departmental plan or report modifications any dispute of the Departmental modifications shall be handled pursuant to Section XVII(Dispute Resolution) of this Order.

SECTION IX - ADDITIONAL WORK

112. The Department may determine that certain tasks, including investigatory work, engineering evaluation, or procedure/methodology modifications are necessary in addition to, or in lieu of tasks included in any Department-approved Work Plan, when such additional work is necessary to protect human health or the environment. The Department may require that Modine perform any such additional work. If required by the Department, Modine shall submit to the Department for review and approval a Work Plan for any such additional work. Such Work Plan shall be submitted in accordance with the time frame specified in the notification letter, unless a longer period of time has been agreed to in writing by the parties. All additional work performed by Modine pursuant to this paragraph shall be performed in a manner consistent with this Order and any applicable provisions of such approved Work Plans.

SECTION X - QUALITY ASSURANCE

113. Throughout all sample collection and analysis activities, Modine shall use EPA-approved quality assurance, quality control, and chain-of-custody procedures as specified in approved Work Plans. In addition, Modine shall:

- A. Ensure that laboratories used by Modine for analysis perform such analyses according to the EPA methods included in the most current version of Test Methods for Evaluating Solid Waste (SW-846) or other methods deemed satisfactory by the Department. If methods other than

EPA approved methods are to be used, Modine shall submit all protocols to be used for analysis to the Department for approval as part of the RFI, CMS, and other Work Plans.

- B. Ensure that laboratories used by Modine for analysis participate in a quality assurance/quality control program equivalent to that followed by MDNR-Environmental Services Program (ESP). As part of such a program, and upon request by the Department, such laboratories shall perform analyses of samples provided by MDNR-ESP to demonstrate the quality of the analytical data.
- C. Inform the Department's Project Coordinator at least fifteen (15) days in advance of sampling which laboratories will be used by Modine.

SECTION XI - SAMPLING

114. All results of sampling, tests, modeling or other data (including raw data) generated by Modine, or on Modine's behalf, during implementation of this Order, shall be submitted to the Department after sampling, tests, modeling or other data have been verified by Modine's quality assurance/quality control procedures.

115. Modine will orally notify the Department at least fifteen (15) days prior to conducting field events as described in the work plans submitted pursuant to this Order. At the Department's oral or written request, or at the request of the Department's authorized representative, Modine shall allow the Department, or its authorized representatives, to split or duplicate samples which are collected by Modine in implementing this Order.

SECTION XII - ACCESS

116. The Department and its authorized representatives shall have access to the Facility for the purpose of reviewing Modine's progress in carrying out the provisions of this Order, including, but not limited to, inspecting and copying records, collecting samples, and verifying data.

117. To the extent that work required by this Order must be performed on property not owned or controlled by Modine, Modine shall use its best efforts to obtain site access agreements from the owners of such property prior to work plan approval for off-site work for which site access is required.

118. In the event that such access agreements are not obtained prior to approval of any plans for which offsite access is required, Modine shall notify the Department in writing, within fifteen (15) days of such failure. Modine shall indicate both the lack of agreement and the efforts made to obtain access. The Department may, as it deems

appropriate, assist Modine in obtaining access. In the event that the Department obtains access, Modine shall undertake the Department-approved work required by this Order on such property. Nothing in this Order shall limit or otherwise affect the Department's rights of access and entry.

SECTION XIII - RECORD PRESERVATION

119. All records and documents in Modine's possession that relate in any way to the site shall be preserved during the conduct of this Order for a minimum of three (3) years after commencement of any corrective action. Modine shall acquire and retain copies of all documents that relate to the site and which are in the possession of its employees, agents and contractors. After this three (3) year period, Modine shall notify the Department at least sixty (60) days before the documents are scheduled to be destroyed. Modine shall make those documents available to the Department if requested within the sixty (60) day period.

120. In accordance with Section 260.430 and 260.550 RSMo., information shall be available to the public unless nondisclosure is requested in writing including justification to the satisfaction of the Director that such information constitutes trade secrets or information which is entitled to confidential treatment in order to protect any plan, process, tool, mechanism or compound which is known only to the person claiming confidential treatment and where confidential treatment is necessary to protect such person's trade, business or manufacturing process, where such nondisclosure will not result in an unreasonable threat to the health of humans or other living organisms and disclosure is not required under any federal hazardous waste management act. If the Director finds the information does not warrant confidential treatment, the person shall be notified by registered mail. The information may be released to the public after thirty days of receipt of the notice from the Director unless Modine obtains a restraining order prohibiting disclosure. Any action by the Director concerning confidential treatment may be appealed to the Hazardous Waste Management Commission pursuant to Section 260.430, RSMo.

SECTION XIV - PROJECT COORDINATOR

121. The Department designates Christine Kump (whose address and telephone number appear in Section XV (Submissions/Notification) of this Order and EPA designates Bill Pedicino (whose address and telephone number also appear in Section XV (Submissions/Notification) of this order) as their respective Project Coordinators.

122. All work performed pursuant to this Order shall be under the direction and supervision of a Project Coordinator appointed by Modine who shall be qualified to supervise the activities to be performed hereunder. Prior to the initiation of the work at the Facility, Modine shall notify the Department in writing of the name, title, and qualifications of the Project Coordinator and of any known contractors and/or subcontractors to be used in carrying out the terms of this Order. The Department, EPA, and Respondent shall each have the right to change their respective Project Coordinator. Modine shall provide at least fifteen (15) days written notice to the Department prior to changing its Project Coordinator. The Department and EPA will provide Modine with written notice upon any change in their designated Project Coordinators.

123. To the maximum extent practicable, all communications between Modine and the Department shall be directed between the Project Coordinators. The absence of the Department's Project Coordinator from the Facility shall not be cause for stoppage of work.

SECTION XV - SUBMISSIONS/NOTIFICATION

124. Unless otherwise specified by the Department, two (2) copies of all written reports, correspondence, approvals, disapprovals, notices or other submissions relating to or required under this Order shall be sent to:

Project Coordinator
Hazardous Waste Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102
(573) 751-3553

or (for parcel delivery)

1738 East Elm
(Lower Level)
Jefferson City, Missouri 65101

125. One (1) copy of all written reports, correspondence, approvals, disapprovals, notices or other submissions relating to or required under this Order shall be sent to:

Project Coordinator
RCRA Corrective Action and Permitting
U.S. Environmental Protection Agency, Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101
(913) 551-7000

SECTION XVI - RESERVATION OF RIGHTS

126. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, or corporation for any liability it may have arising out of or relating in any way to the handling or release of any hazardous waste and/or hazardous constituent found at, taken to, or taken from the Facility.

127. Notwithstanding compliance with the terms of this Order, the Department and EPA reserve the right to take further action as necessary to respond under the Missouri Hazardous Waste Management Law (Section 260.350, et seq. RSMo.), RCRA, CERCLA, or other statutory authority with respect to any conditions or releases at the Facility. The Department and EPA expressly reserve all rights that they may have to require that Modine perform tasks in addition to those detailed in this Order.

128. The Department and EPA reserve the right to take any enforcement action pursuant to Missouri Hazardous Waste Management Law (Section 260.350, et seq. RSMo.), RCRA, CERCLA, or other statutory authority or to seek other injunctive relief, monetary penalties, and punitive damages for any violation of law or this Order.

SECTION XVII - DISPUTE RESOLUTION

129. If Modine disagrees with any disapproval, modification, or other decision or directive made by the Department pursuant to this Order, Modine shall notify the Department in writing of its objections and the bases therefor within fourteen (14) days of receipt of such disapproval, modification, decision, or directive. This notice shall set forth the specific points of the dispute, the position Modine maintains should be adopted as consistent with the requirements of this Order, the factual and legal bases for Modine's position, and all matters Modine considers necessary for the Department to make a determination.

130. Modine and the Department shall have fourteen (14) days from the Department's receipt of Modine's objections to attempt to informally resolve the dispute. Both parties may agree in writing to an extension of the fourteen (14) day time period set forth above. If an agreement is reached on the issue in dispute, the resolution shall be reduced to writing, signed by representatives of each party and incorporated into this Order. If the parties are unable to reach agreement within time for informal negotiations, the parties will submit their positions to the Hazardous Waste Management Commission, whose decision shall be binding on the parties and whose decision shall be incorporated into this Order.

131. The question of whether and for what amounts Modine shall pay stipulated penalties which accrue during the dispute resolution period(s) set forth above shall be resolved by the Director at his or her discretion.

132. Notwithstanding any other provision of this Order, no action or decision by the Department pursuant to this Order shall constitute final agency action giving rise to any rights to judicial review prior to the Department's initiation of judicial action to compel Modine's compliance with the requirements of this Order.

SECTION XVIII - FORCE MAJEURE

133. For purposes of this Order, "force majeure" means a strike or an act of God, war, riot or other catastrophe.

134. In the event that a force majeure event should arise, Modine shall use its best efforts to avoid a delay. The requirement that Modine exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event such that the delay is minimized to the greatest extent practicable. Examples of events that are not force majeure events include, but are not limited to, increased cost or expenses of any work to be performed under this Order or the financial difficulty of Modine to perform such work.

135. If any event occurs or has occurred that is likely to delay the performance of an obligation under this Order, whether or not caused by a force majeure event, Modine shall notify the Department by telephone within forty-eight (48) hours if Modine knows that the event is likely to cause a delay. Within five (5) business days thereafter, Modine shall provide in writing the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of Modine, such event may cause to

contribute to an endangerment to the public health, public welfare or the environment. Failure to comply with the above requirements shall preclude Modine from asserting any claim of force majeure.

136. If the Department agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of any obligation under this Order that is directly affected by the force majeure event shall be extended by written agreement of the parties, pursuant to Section XXIV (Effective Date and Subsequent Modification) of this Order, for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of time for performance of the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation.

137. If the Department does not agree that the delay or anticipated delay has been, or will be caused by a force majeure event, or does not agree with Modine on the length of the extension, the issue shall be subject to the Dispute Resolution procedures set forth in Section XVII (Dispute Resolution) and Section VIII (Review and Approval Procedures) of this Order. In any such proceeding, to qualify for a force majeure defense, Modine shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, and that Modine exercised or is exercising due diligence by using its best efforts to avoid and mitigate the effects of the delay.

138. Should Modine carry the burden set forth in the previous paragraph, the delay at issue shall be deemed not to be a violation of the affected obligation of this Order.

SECTION XIX - DELAY IN PERFORMANCE/STIPULATED PENALTIES

139. Failure to comply with this Order within the times specified herein will result in the Department initiating court action for injunctive relief, assessment of penalties not to exceed ten thousand dollars (\$10,000.00) per day for each day or part thereof noncompliance, and any other applicable remedy pursuant to Section 260.425, RSMo. Compliance with this Order does not preclude the Department from pursuing penalties for failure to perform the corrective action activities outlined in this Order.

140. Requests for extensions to the time frames within this Order will be considered and may be granted, on a case-by-case basis.

141. Modine shall pay stipulated penalties according to the following schedule if Modine fails to comply, with compliance dates listed in Section VI (Work to be Performed) of this Order. The penalties set forth below are per day penalties which are to be assessed beginning with the first day of noncompliance after the scheduled deadline date in Section VI (Work to be Performed) of this Order.

<u>PERIOD OF NONCOMPLIANCE</u>	<u>PENALTY PER VIOLATION</u>
First through 30th day of noncompliance	-0-
31st through 60th day of noncompliance	\$500.00
61st through 90th day of noncompliance	\$1,000.00
Beyond 91st day of noncompliance	\$1,500.00

142. Where a month rather than a specific date is set forth in the Order, the compliance date, for purposes of calculating the stipulated penalties listed in this Section, shall be the last day of the month. Accordingly, the first day of noncompliance, for the purposes of calculating the stipulated penalties, shall be the first day of the following month.

143. The stipulated penalties set forth in this Section shall apply only to the schedules addressed in Section VI (Work to be Performed) of this Order. No penalties shall apply to any claims by the Department that the reports called for in the Order are inadequate, insufficient or incomplete. If the Department believes that there are any deficiencies or inaccuracies in the required reports, the procedures set forth in Section XVII (Dispute Resolution) of this Order shall govern the dispute.

144. All penalties set forth in this Section shall begin to accrue from the date of noncompliance and shall continue to accrue through the final day of noncompliance.

145. All penalties owed under this Section of this Order shall be payable within sixty (60) days of receipt of the notification of noncompliance unless the penalty is challenged by Modine pursuant to the Dispute Resolution procedure outlined in Section XVII (Dispute Resolution). If the penalty is challenged, it shall not be paid until thirty (30) days after the Director's determination that Modine owes the stipulated penalty, and Modine has failed to use, or has exhausted, its rights to review the Director's decision.

146. Stipulated penalties shall continue to accrue during the formal Dispute Resolution process or any appeal. In the event Modine prevails, stipulated penalties shall not be due or owed.

147. All payments accruing under this Section shall be made by certified check made payable to the Camden County Treasurer as Trustee for the Camden County School Fund and delivered to the Attorney General of Missouri, P.O. Box 899, Jefferson City, Missouri 65102-0899, Attention Shelley Woods, Assistant Attorney General, or designee.

SECTION XX - FINANCIAL ASSURANCE

148. Within 120 days of Departmental approval of the final remedy pursuant to paragraph 90 of this Order, Modine shall demonstrate continuous compliance with the financial assurance requirements in effect at that time for corrective action being performed under state law.

149. The effective financial assurance requirements for corrective action shall be consistent with and/or substantially equivalent to that specified in either final 40 CFR Part 264 Subpart S corrective action regulations or 40 CFR Part 264 Subpart H, as incorporated by reference in 10 CSR 25-7.264(H). The amount of financial assurance shall be based on Modine's cost estimate for the approved final remedy as contained in the approved CMS final report.

150. Annually by March 1, Modine shall adjust the corrective action cost estimate to account for inflation in accordance with 40 CFR 264.142(b) as incorporated by reference in 10 CSR 25-7.264(H) and any other changes in the costs associated with implementation, operation, maintenance and monitoring of the approved final remedy. If the cost estimate increases, documentation of adequate financial assurance for that increase shall be provided to the Department within 60 days following the increase in the cost estimate.

SECTION XXI - OTHER APPLICABLE LAWS

151. All actions required to be taken pursuant to this Order shall be undertaken in accordance with the requirements of all applicable federal, state, and local laws and regulations. Modine shall be responsible for obtaining all federal, state or local permits necessary for the performance of the work described herein.

SECTION XXII - SEVERABILITY

152. If any provision or authority of this Order or the application of this Order to any party or circumstances is held by any judicial or administrative authority to be invalid, the application of such provision to other parties or circumstances and the remainder of the Order shall remain in full force and shall not be affected thereby.

SECTION XXIII - INDEMNIFICATION OF THE STATE OF MISSOURI

153. Modine agrees to indemnify the state of Missouri and to hold the State, its agencies, departments, agents and employees harmless from any and all claims or causes of action arising from or on account of acts or omissions of Modine, its employees, agents, servants, receivers, successors, assigns or subsidiaries in carrying out activities under the Order. The State or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Modine in carrying out activities under this Order. Similarly, Modine or its agents, contractors, employees, successors and assigns shall not be held out as a party to any contract entered into by the State. This indemnification provision does not apply to any persons not a party to this Order.

SECTION XXIV - EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

154. The effective date of this Order shall be the date upon which the Order is signed by the Director.

155. All time lines for performance and compliance begin to run from the effective date of this Order.

156. This Order may be amended by mutual agreement of the Department and Modine. Any such amendments shall be in writing and shall be effective when such amendments are signed by the Director. The Department's Project Coordinator shall be authorized to extend in writing any date, deadline, or schedule contained in any Department-approved work plan.

157. No informal advice, guidance, suggestions or comments by the Department regarding reports, plans, specifications, schedules or any other writing submitted by Modine shall be construed as relieving Modine of its obligations to obtain such formal approval as may be required by this Order.

SECTION XXV - TERMINATION

158. The provisions of this Order shall be deemed satisfied by Modine on written notice from the Department that Modine has demonstrated that all of the terms of this Order including any additional work as may be performed pursuant to Section IX (Additional Work) of this Order, have been completed to the satisfaction of the Department.

159. Termination of this Order shall not, however, terminate Modine's obligation to comply with Sections XIII (Record Preservation) and XVI (Reservation of Rights), of this Order.

SECTION XXVI - GENERAL SITE MAPS

Figures 1 and 2 are attached.

SECTION XXVII - SIGNATURE

DEPARTMENT OF NATURAL RESOURCES

Date

John A. Young, Director
Division of Environmental Quality

MODINE MANUFACTURING COMPANY

Date

JAY:ck

Enclosures

c: Jefferson City Regional Office
Public Drinking Water Program
EPA Region VII

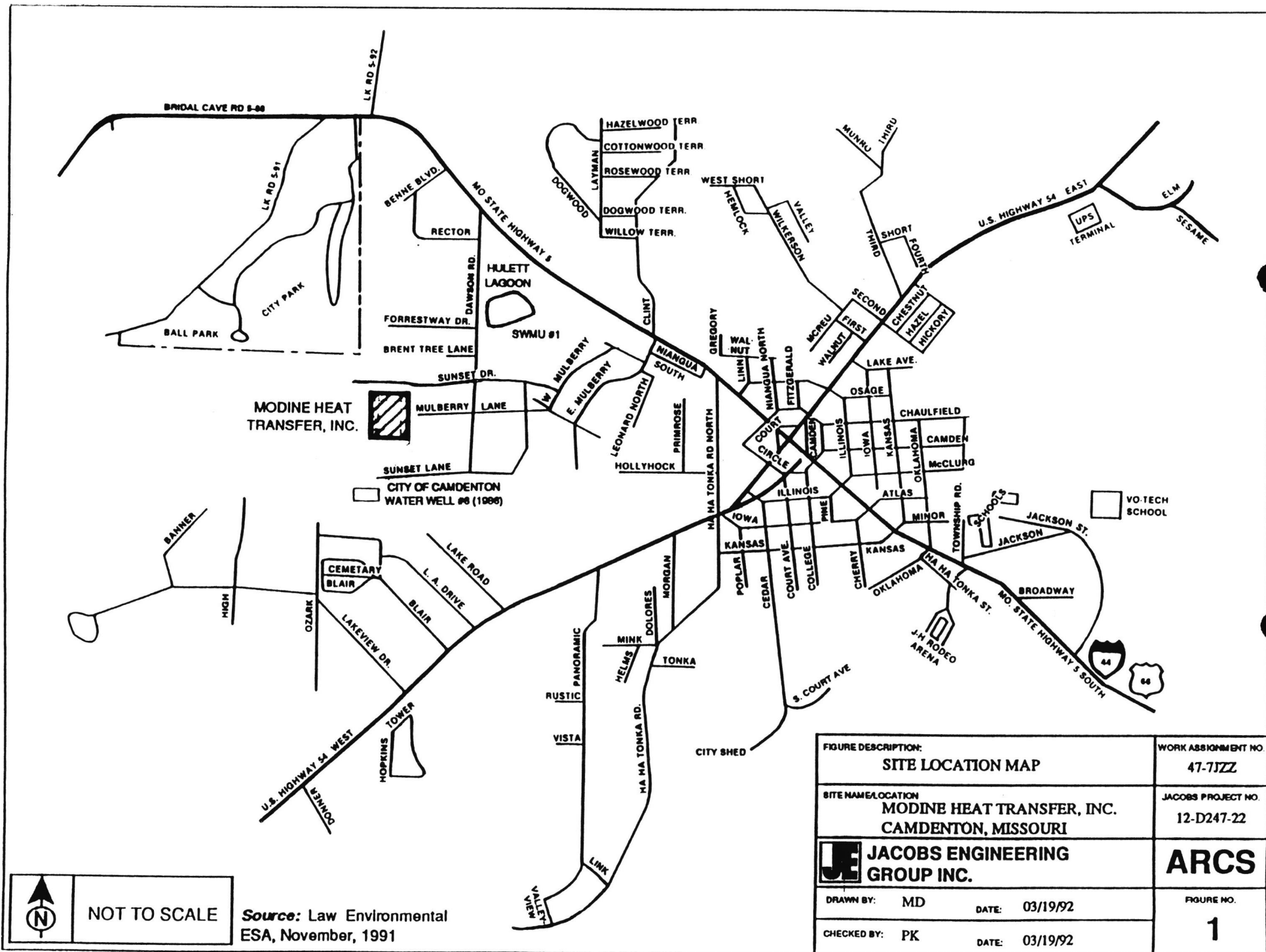



FIGURE DESCRIPTION:		WORK ASSIGNMENT NO.
SITE LOCATION MAP		47-7JZZ
SITE NAME/LOCATION		JACOBS PROJECT NO.
MODINE HEAT TRANSFER, INC. CAMDENTON, MISSOURI		12-D247-22
 JACOBS ENGINEERING GROUP INC.		ARCS
DRAWN BY: MD	DATE: 03/19/92	
CHECKED BY: PK	DATE: 03/19/92	FIGURE NO.
		1

